

Application No.: 09/639,636

RD25905-6

REMARKS

This case has been carefully reviewed in light of the Office Action dated 21 November 2002, wherein claimed priority was not acknowledged; the information disclosure statement form was indicated to not have been found; restriction was required between claim sets; claims 15-17 were rejected under 35 USC 112, second paragraph; claims 10-11 and 15-17 were rejected under 35 USC 102(b) on Lambda Physik Industrial Report; claim 12 was rejected under 35 USC 103(a) on Lambda Physik Industrial Report in view of Konishi, US Patent No. 6,034,825; and claims 18-21 were allowed.

The title has been amended to be consistent with the remaining claims. Claims 1-9 have been canceled, and claims 15-17 have been amended. Claims 10-12 and 15-21 remain pending in this application. Reconsideration in light of the above amendments and the following remarks is respectfully requested.

Priority under 35 USC 120

US priority was claimed on the Division/Continuation Application Transmittal Form signed 4 August 2000. ***Applicants respectfully request the Examiner make an Acknowledgement of the claimed priority.***

Information Disclosure Statement

In response to the Office Action statement that an IDS form was not found, attached is a copy of a Corrected IDS which includes the identical references listed in the original mailing (on copies parent forms 1449 and 892) on a clean form PTO-1449.

Election/Restriction

Applicants affirm the election of Group II, claims 10-12 and 15-21, and have canceled claims 1-9.

35 USC 112, second paragraph

Claims 15-17 were rejected under 35 USC 112, second paragraph. To more positively recite the limitations, these claims have been amended to add the language "the laser, the beam homogenizer, the phase mask, and the objective lens are configured ..." to each claim. Applicants respectfully submit that claims 15-17, particularly as amended, are in full compliance with the requirements of 35 USC 112, second paragraph. Withdrawal of the rejection of claims 15-17 under 35 USC 112, second paragraph, is respectfully requested.

35 USC 102(b)

Applicants respectfully traverse the rejection of claims 10-11 and 15-17 under 35 USC 102(b) over Lambda Physik Industrial Report. Applicants respectfully submit that Lambda does not teach or disclose the claim 10 recitations of:

Claim 10 (previously amended). A system for patterning a substantially transparent polymer substrate of an anti-scatter x-ray grid, the system comprising:
a high power laser for providing laser light;

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a beam homogenizer for conditioning the laser light; and
a phase mask for creating a pattern of the conditioned laser light while reducing an amount of the conditioned laser light which is lost to the phase mask;
the laser, the beam homogenizer, and the phase mask being positioned for ablating openings having slopes less than or equal to 0.25 degrees and extending completely through an anti-scatter x-ray grid substrate having a thickness ranging from 0.3 millimeters to 1.5 millimeters.

For example, Lambda does not teach, suggest, or disclose a "the laser, the beam homogenizer, and the phase mask being positioned for ablating openings having slopes less than or equal to 0.25 degrees and extending completely through an anti-scatter x-ray grid substrate having a thickness ranging from 0.3 millimeters to 1.5 millimeters," nor is it remotely related to the problems associated with systems for forming deep vias in x-ray grid substrates.

The Lambda reference merely describes conventional via formation for electronic packaging applications with wall angle ranges described as 50-65 degrees for 1987 and 20-75 degrees for 1994 (page 3, table 2) and shows wall angles in FIGs. 10 and 11 that are necessary for metal coverage (bottom left of page 5). In the example on page 8 of Lambda, the substrate material is described as being 50 micrometers (middle of left column). When working with films of 50 micrometers and wall angles of 20-75 degrees, conservation of laser light power is not as critical as when working in the thicker substrates (300-1500 micrometers) of the present invention to achieve walls with very small slopes. In Applicants' invention, the high power laser, the phase mask and the conditioning work together to maximize the amount of laser light that reaches the substrate and minimize the wasted light as well as the opportunity for successful x-ray grid substrate fabrication. Applicants' combination of the elements of claim 10 provides a commercially feasible system for ablating the substrate with the desired slopes by maximizing the utilization of available power.

Accordingly, Applicants respectfully submit that the claimed invention defines allowable subject matter over the applied art. Withdrawal of the rejection of claim 10, and claims 11 and 15-17 which depend therefrom, is respectfully requested.

35 USC 103(a)

Claim 12 was rejected under 35 USC 103(a) on Lambda Physik Industrial Report in view of Konishi. Claim 12 depends from claim 10 which Applicants believe to be in condition for allowance over Lambda for the reasons discussed above regardless of whether Konishi might be interpreted to teach or suggest an axial gradient-index lens. Accordingly, Applicants respectfully submit that claim 12 defines allowable subject matter over Lambda and Konishi.

Summary

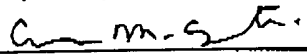
In view of the foregoing, Applicants respectfully submit that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicants' undersigned representative at the telephone number below.

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Respectfully submitted,


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Attachment: Corrected IDS